

Examiner Chester T. Barry  
Appln. of Redmon et al.  
Ser. No.: 10/667,893  
Response of 9/5/2006

#### REMARKS

Examiner Barry and Applicants' counsel have discussed this case by telephone. It appears that the interview, although it has not resulted in an allowance, may have advanced the prosecution of the case. Applicants' memorandum of that interview follows.

#### MEMORANDUM OF INTERVIEW

Applicants sincerely appreciate Examiner Barry's having granted an interview (by telephone) to their counsel, Mr. Priddy, on Wednesday July 26, 2006.

In a brief prior telephone discussion to arrange the interview, Mr. Priddy indicated a desire to discuss the prior art involved in the rejection and a desire to forward to Mr. Barry by fax a draft of an amended version of claim 1 for consideration during the interview. Unfortunately, on the day of the interview Mr. Barry was unable to receive a fax.

Mr. Priddy discussed the Rindt reference as follows. In a typical WWTP (wastewater treatment plant) "load" changes repeatedly occur. These are changes in the character and quantity of waste in the wastewater which vary the oxygen demand of the liquor in the tanks. Several examples were

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given of factors which can cause such changes in a typical municipal WWTP. Thus, in such a plant, served by an automated control system, the system will frequently be confronted, and must cope, with varying ratios of available oxygen to oxygen demand.

Rindt's teachings are foreign to this kind of situation. Actually, he works to avoid it. He seems to imply, if not expressly teach, that in his analytical equipment such varying ratios can be avoided. In his analysis of batches of wastewater, he seeks to prevent varying ratios of available oxygen to oxygen demand from occurring. [Not cited in the interview were Rindt's column 2, lines 56-58 and column 5, lines 25-29, believed to support this conclusion].

Accordingly, Rindt's control system is not required to cope with such varying ratios, neither needs nor includes system elements to cope with them, offers no solution to this issue and thus is not an obvious source of guidance for designing control systems to cope with them. For that reason, the combining of Rindt's teachings with those of the secondary references would not have been obvious to one of ordinary skill.

Mr. Barry asked if applicants intended to amend the claims to specify that such load changes occurred in WWTPs controlled by their process. Mr.

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Priddy replied that the intended claim amendments did include recitations of changing oxygen demand.

Mr. Barry inquired if any of the secondary references were more pertinent than Rindt. Mr. Priddy expressed his opinion that one of the Hallas references cited by Applicants, DE 42 29 550 A1 [referred to below as "Hallas"], seemed more pertinent. Paragraph 11, sentence 3 of a translation of Hallas, supplied by Applicants, suggested using offgas data from a gas collection device to control a full-scale WWTP tank to an OUR set point. [See also claim 1 of Hallas.]

Upon Mr. Barry's suggestion that Hallas might be a better basis on which to reject the claims, Mr. Priddy explained that controlling merely on the basis of an OUR set point [although recommended as a solution by Hallas] was not satisfactory. One source of difficulty is the load changes mentioned above.

Mr. Barry suggested that it might have been obvious to one of ordinary skill in the art to modify Hallas' control system to automatically adjust the OUR set point as the character of the wastewater changed during the day. It was explained briefly by Mr. Priddy that the proposed claim language would include additional features, not suggested by Hallas, which were important and assisted in achieving effective control.

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Mr. Barry replied that it was likely that a claim containing both the changing load recitations and these additional features, even if it were submitted formally on the record and were patentable over Rindt, Hallas and the other cited references, would not be allowed without a further search and consideration of whether rejections ought to be made based on Hallas as a primary reference. In the circumstances, he suggested the situation was one in which an RCE (request for continuing examination) ought to be filed. Mr. Priddy agreed that applicants would file an RCE, and the interview ended.

#### REPLY TO REJECTION

For reasons advanced in the interview and discussed above and in the prior response (which is incorporated herein by reference), the final rejection is respectfully traversed. Neither the primary nor secondary documents provide clear enough guidance to make it obvious to combine them in such a way to arrive at the present invention. This conclusion is supported by the lengthy existence of the art of respirometry and the considerable efforts that have been made to provide automated control of wastewater treatment plants, as reflected in the secondary documents. Both of these bodies of art span well over two decades. Had they rendered the present invention obvious, the present invention would surely

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have emerged well prior to Rindt. Yet, when Rindt did his work, while having available his own teachings and those of every one of the secondary documents, he failed to do what the rejection says was obvious. Further support for the conclusion of non-obviousness is found in the "disconnects" between respirometry and the conditions that typically occur in wastewater treatment tanks. Further support is provided by the fact that, as the nature of the rejection acknowledges, following the teachings of Yust, Tanuma and Hallas without Rindt's quite different teachings does not lead to the present invention. In the circumstances, Applicants respectfully request that the rejection be reconsidered and withdrawn in light of the foregoing reasoning.

#### AMENDMENTS TO THE CLAIMS

Applicants still believe that claims 1-4, as they existed prior to the final rejection, distinguish in a novel and non-obvious manner from the combination of references cited in that rejection. Nevertheless, in an attempt to advance the prosecution of the application, they have submitted herewith amended versions of those claims. Continued examination of the application based on those claims is respectfully requested.

The "load" changes mentioned in the interview are illustrative of a number of kinds of changes in conditions, for example changes in the character

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and quantity of the wastewater, that alter the demand or need for oxygen in a WWTP. Thus, in drafting these claims, instead of "load", the broader terminology "need for oxygen" has been used.

While it may seem on the surface that a system like Hallas' that maintains a constant OUR set point would keep a plant operating properly, two factors, addressed by the present claims, militate against this. These are excursions in DO level which are not readily apparent to a control system governed by OUR set point and the changes in performance (e.g., oxygen transfer efficiency) of the gas supply system, brought about by control system-induced changes in gas flow, that throw the air being supplied by the system out of "sync" with oxygen needs. To the best of Applicants' knowledge, these problems have not been clearly recognized by those of ordinary skill in the art, nor have Applicants' solutions, claimed herein, been taught and enabled in the prior art.

Support for references to DO control values and performance control values in amended method claims 1 and 2 may be found in the disclosure at, for example, pages 9, 10 and 22. Support for DO detectors and code useful with performance data, more fully recited in amended apparatus claims 3 and 4, may also be found in the disclosure at, for example, pages 6, 8-9 and 15-16.

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A number of papers received by Applicants from the PTO list Mr. Jenkins as the "first-named" inventor. However, it appears that Mr. Redmon is named first in the original application papers, declaration and filing receipt.

Attached is an extra copy of a Change of Correspondence Address form filed by fax on August 18, 2006, requesting that future correspondence be directed to the undersigned.

Reconsideration and favorable consideration are courteously solicited in light of the foregoing. If Mr. Barry requires further information or believes a further interview would be helpful, the undersigned will gladly confer with him again about the case.

Respectfully submitted,



Dated: 5 Sept. 2006

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